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CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

Vol. XX JANUARY, 1948 No. 1

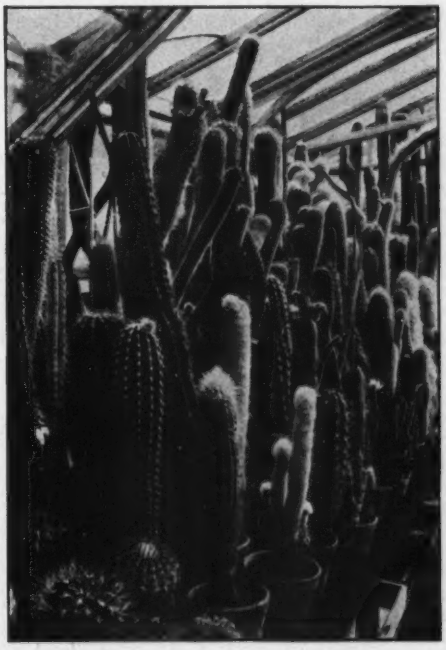

FIG. 1. A group of Cerei in the collection of Curt Backeberg, Germany.

CACTUS AND SUCCULENT JOURNAL

Published and Owned by the Cactus and Succulent Society of America, Inc., Box 101, Pasadena 16, California. A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. U.S.A. and Latin Am. $3.00. Foreign $3.50 per year by international money order. Membership in the Cactus Society free with subscription. Mail application to SCOTT HASELTON, *Editor*, Box 101, Pasadena 16, Calif. *Editorial Staff:* THE ENTIRE SOCIETY. Entered as Second Class Matter at Pasadena, Calif., under act of March 3, 1879.

Vol. XX JANUARY, 1948 No. 1

THE GENUS ARTHROCEREUS

By CURT BACKEBERG

In 1929, Alwin Berger described *Arthrocereus* as follows:

"Dwarf, slender plants with more or less woody roots; branches globose to elliptic with many low ribs; spines 15-50 mm. long mixed with short bristles, the central and radial spines not well distinguishable, sometimes the centrals are more developed; flowers from upper part of branches, mostly near the top; buds woolly from more or less of a ring of stiffer hairs; tube somewhat bent, slender, funnel-form, bearing small scales and tangled hairs, in one species stiffer; outer perianth segments rather narrow, inner segments broader, throat usually narrow; filaments in two series, style usually longer with stigma lobes protruding; fruit berry-like, somewhat pyriform."

The genus *Arthrocereus* consists of three species: *A. microsphaericus* (K. Sch.) Berger, *A. campos-portoi* (Werd.) Backbg., and *A. rondonianus* Backbg. & Voll. Berger's type for the genus is *Cereus microsphaericus* K. Sch. Werdermann combined the genus with *Trichocereus* which is not found in Brazil; *Arthrocereus* differs in its more delicate flowers, the rather narrow tube with a little wool on the distant areoles, and the small fruit. All three species have in common the low growth habit with small and very slender branches. Their distribution is as follows:

A. microsphaericus: on sandy places of the province of Rio de Janeiro (Glaziou).

A. campos-portoi: on the sierras near Bello Horizonte, f.i. Sierra do Curral, Estado Minas Geraes (Werdermann).

A. rondonianus: Minas Geraes, near Ouro Preto (Voll). Glaziou's note may be an error for *Cereus damazioi* K. Sch. (a syn. of *A. microsphaericus*) is found in Minas Geraes too, as Prof. Damazio said and who found this plant material.

This means that *Arthrocereus* has a very limited distribution and is, in view of its rather uniform characteristics, a well defined and good genus.

In this group of Cerei, Werdermann placed *Cereus glaziovii* K. Sch., while Britton and Rose believed it to be a *Leocereus*. Perhaps Werdermann is nearer right because Br. and R. say, "ovary woolly in the axils;" that means without bristly spines, which is a characteristic of the genus *Leocereus*. Werdermann is right when saying that the knowledge is insufficient to clear this Cereus.

There is still another name, *Cereus parvisetus* Otto, which may belong here and is perhaps the older name for *Artherocereus campos-portoi*. It comes from Minas Geraes too. The description is: "Single, slender, 12-15 mm. in diameter, erect; 12 ribs; areoles approximate, white; upper spines 4-5, brown, lower spines 6-8, white, hair-like." "Upper" and "lower" spines may mean centrals and radials, which are not easily distinguishable in *Arthrocereus*. There is no other Brazilian Cereus whose description suits *campos-portoi*, neither is there a similar Cereus from Minas, so it can be said that both are identical. Definite decision is impossible because we do not know the flower of *C. parvisetus*.

KEY TO THE SPECIES OF ARTHROCEREUS

A. Branches globular (Flowers white) ..... 1. *Arthrocereus microsphaericus* (K. Sch.) Berger

B. Branches slender-cereoid

a. Spines brownish (Flowers white) ..... 2. *Arthrocereus campos-portoi* (Werd.) Berger

b. Spines honey-yellow (Flowers pinkish) ..... 3. *Arthrocereus rondonianus* Backbg. et Voll

FIG. 2. *Arthrocereus microspaericus* (K. Sch.) Berger. Approx. x 1.

DIFFERENCES

1. *A. microsphaericus*	2. *A. campos-portoi*	3. *A. rondonianus*
Buds: Form near the top with almost no small ring of hairs.	Form below the top with a small ring of a few erect hairs.	Form near the top from a ring of stiffer hairs.
Tube:	More or less bent near the base.	Rounder. Little more hair, nearly bristle-like.
Flowers: On all, the length and stoutness depends on the condition of the plant; larger, vigorous growing plants produce larger flowers. Open in late evening and close in early morning.		Somewhat larger than other two. Inner perianth segments more erect.
Fruit: Size of hazelnut, (approx. 1.5 cm.), pyriform, yellow-green with reddish tinge.	Globose, somewhat flattened, 3 cm. diam., green.	Withered flowers persisting until fruit is ripe—all three species.

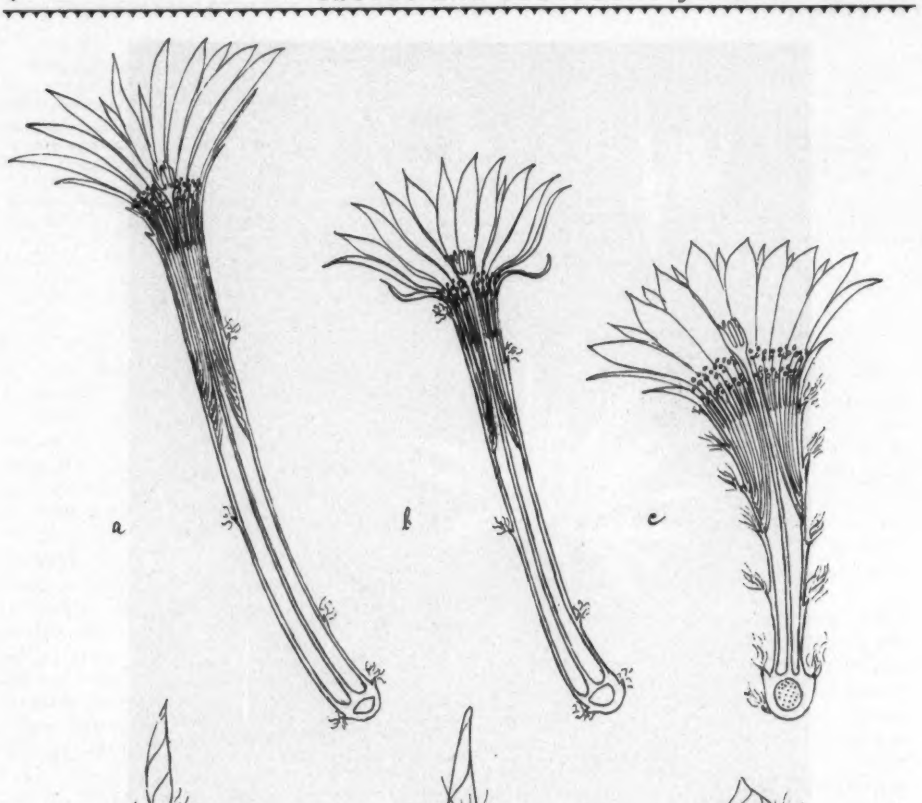

FIG. 3. a: *Arthrocereus microsphaericus*. b: *A. campos-portoi*. c: *A. rondonianus*. With buds. The longitudinal drawings of the flowers are about ¾ size but the tubes have been drawn about twice size so as to permit better detail.

These plants are not grown easily on their own roots in cultivation. It is reported that in its habitat the branches of *A. rondonianus* die back and new branches form from the woody, rather thick root. It is not known if the other two species do the same. Grafted on *Cereus peruvianus*, the plants grow more slowly but flower earlier; on *Trichocereus spachianus*, they grow more rapidly, flower later but with more flowers; on *Trichocereus pachanoi*, plants have reached a height of 72 cm. and branches 3.5 cm. thick with four buds on the top of each—this growth is evidently larger than is found in nature. Well grafted and strong growing plants also have a thicker flower tube. Grafted plants usually flower about the second or third year. The flowering season is the end of June, with all three species flowering nearly at the same time. *A. rondonianus* is sometimes a little later on account of its larger flowers which require a little more time to develop.

Rose made a double mistake when placing *Cereus microsphaericus* (the type), as well as *Epiphyllanthus microsphaericus** (Vol. IV, pg. 181), near *Harrisia* (Vol. II, pg. 159), stating that it and *C. damazioi* K. Sch. are of this alliance. General characters and the fruit of *Harrisia* are quite different.

To be Continued

*Therefore the valid name of this must be *Epiphyllanthus obtusangulus* (K. Sch.) Berger.

Succulents in England

Part II

By G. D. ROWLEY

OUTDOOR CULTURE

Besides those hardy succulents which are normally grown as valued additions to the rock and alpine gardens, many of the sturdier half-hardy species benefit if put out of doors during the summer. They may be stood in frames or placed against a sheltered wall facing South, or bedded out in specially prepared raised beds, or if preferred, the pots sunk in coarse gravel. The latter procedure has much to commend it as it gives a more natural appearance and makes them easier for lifting in the autumn. Additional advantages of putting the plants out of doors accrue from the natural sunshine and ample ventilation. Disadvantages and natural enemies are supplied by cats, birds, slugs, small boys, inquisitive onlookers and impassioned collectors or souvenir hunters. On account of these, as well as the danger from hail, all choicer plants—small or difficult species, delicate foliage plants, less vigorous growers and all the hairy or downy kinds, as well as seedlings—should be kept indoors or at least given the protection of a frame covered with netting. Large Opuntias, Agaves and Cerei do particularly well out of doors and some members of the first two genera are even hardy enough to stay out during the winter unharmed, although the owner of one large specimen plant is scarcely likely to want to try!

CLEANLINESS AND PEST CONTROL

The appearance of a succulent collection is greatly enhanced if the plants are healthy, pest-free and not disfigured by brown spots or scars. Such blemishes may occur for a number of reasons—frost exposure, burns from droplets of water concentrating the sun's rays on areas of the stem or leaf, or from the attacks of various sucking or biting insects. To keep this within the predetermined limits of a brief synopsis, only a few of the commoner of these pests can be mentioned with the appropriate methods of dealing with them.

Commonest of all is a tiny grey-white creature like a woodlouse the size of a pin's head—the mealy bug, which hides in crevices in the plants and is accompanied by a white fluffy down which conceals the eggs. Hand-picking removes them if few are present; if abundant a brush dipped in methylated spirit can be used or a nicotine spray used. Similar pests occur commonly on the roots as root bugs; they thrive in very dry conditions and should be suspected if the plant appears sickly, shrivelled or yellowish. Their removal is more difficult, thorough washing of the roots under the tap to remove all earth, etc., is the obvious way, followed by trimming of broken and dead roots and allowing the plant to dry for a day like a cutting before repotting. Soaking the plant (still potted) in nicotine (1 teaspoonful to 1 quart of water) is also effective.

Another pest encouraged by drought is the so-called red spider, a tiny, very active, red mite that *causes* grey or brown surface disfigurements. Vigorous syringing overhead with plain water is a preventive; serious attacks can be combatted by many of the trade preparations—Nicotine sprays, "Volck," and so on.

Scale insects occasionally become serious nuisances if allowed to spread; the creature itself hides beneath a "scale" appearing as a whitish raised spot. Hand-picking is best as a powerful insecticide is required to be effective—Volck (1:100 of water) or an oil emulsion spray, for example.

Greenfly, woodlice, slugs and snails are other possible enemies, especially to tender plants and seedlings; Greenfly and Aphids are destroyed by spraying with Nicotine or one of the trade preparations prepared especially for the purpose; the remainder by removing any rotten wood, etc., that harbours them and setting traps of poisoned bait (powdered "Meta" fuel spread around the pots, for example), or leaving slices of potato lying about to attract the pests which are then destroyed.

There are a number of useful general preventives available, of which quite the best is p-dichlorobenzene, a white solid with a rather napthalene-like odor that is simply powdered and sprinkled over the staging or in holes in the soil to combat root bug and most other pests.

PROPAGATION

Broken or detached portions of succulents should never be thrown away; in nine cases out of ten they can be induced to grow and form new plants. For the same purpose portions of stem can be cut off, clusters separated, offsets or individual leaves removed for multiplication of the original plants to build up reserve stock and duplicates for exchange.

A cut surface of plant tissue forms as it dries out a protective "skin" to seal off the exposed area—a process known as "callousing over." The proper formation of this callus precedes root formation, and is of particular importance in succulents to keep out decay bacteria which readily cause rot if given half a chance. Cuttings stuck straight in the soil and kept damp (as is usual for ordinary plants) quickly damp off and collapse; the proper procedure is to place the cut portions on a dry shelf in the sun for at least some hours; if there is no sun, for some days. If forgotten for a week or more no harm will be done and some may even put out roots of their own accord.

The properly dried cuttings are inserted in pure sand, or a very sandy, porous compost, and watered cautiously until by "plumping up" or growing they indicate that rooting has taken place. They should not be inserted too deeply and long ones may need support; leaves can be placed at a slight angle so that the base is just covered. Dipping any cut surface in powdered charcoal or sulphur helps to guard against infection.

Succulents may alternatively be raised from seed, a process requiring heat and perhaps rather slow for the impatient amateur but full of interest and the best way to get shapely specimens. Shallow pots or troughs are provided with ample drainage and filled about two-thirds full of sandy porous loam, similar to that used for mature plants. This is covered by a layer rather more finely sifted, and the seeds evenly distributed over the surface. A very thin layer of sand is put on top and the whole pressed down with a flat object. Water from below by standing in a bowl of water, cover with glass and never allow complete drying out to take place until the seedlings are up and well-established. If extra heat is available, stand the pans over the hot water pipes or radiator. After germination has taken place the glass is progressively removed, allowing more and more air to the seedlings until finally it is dispensed with altogether. Gentle spraying with one of the well-known preparations to prevent "damping off" ("Semesan," "Chinosol," "Purpusol" or "Chestnut Compound") is recommended.

When sufficiently large or in danger of overcrowding, the young plants should be transplanted singly to small pots, using the same compost as is described above for mature specimens.

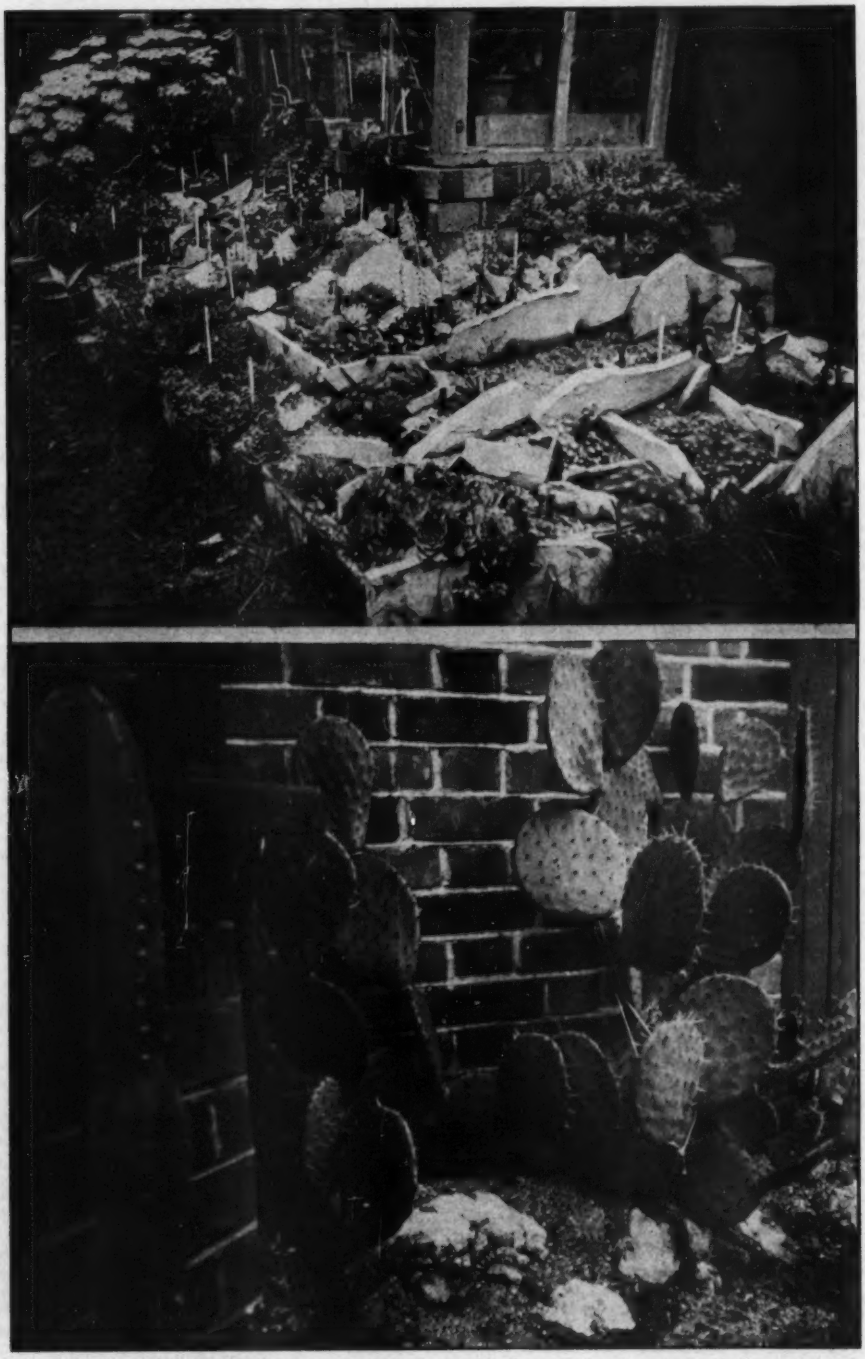

FIG. 4. Two views of G. D. Rowley's succulents in England. Above is shown a sloping bed containing forty-two hardy Sedums and other Crassulaceae. Below is shown a fifty "pad" Opuntia grown out of doors from a single branch, in five years. The *Cereus peruvianus* is moved indoors during winter.

FIG. 5

Ferocactus Johnstonii—a rare and beautiful Golden Barrel cactus on Angel de la Guarda Island.

A Cruise in the Gulf of California

By GEORGE LINDSAY

Part II

We were soon at San Esteban. Bill climbed into the rigging in order to better judge depths by water tones, and we cautiously pushed toward shore. The sounding line told us where to drop anchor, and we rowed into a deserted beach. In the arroyos the iguanas, remnants of a saurian world, again met us. They were sometimes over three feet long, and very heavy through the body, but unlike those we had seen on San Pedro Nolasco, they were timid—possibly an indication that the island was occasionally visited by man. Lizards will be lizards, and these could be seen sitting on rocks, doing "push-ups," just as the little fellows do at home! We were pleased to find *Echinocereus grandis* in flower here, where it was discovered by Dr. Rose in 1911. The flowers didn't open wide and ranged through a number of shades of

yellow and pink. As soon as we saw these plants we knew the *Echinocereus* on San Pedro Nolasco was not *E. grandis*. We found also what is probably *Mammillaria armillata* in flower, although the flowers were rather bright magenta, rather than the greenish or flesh color which is typical. A species of *Opuntia,* resembling but more robust than *O. burrageana* was in flower. Plants of this type were found on many of the islands we were to inspect.

We were about to hoist anchor to sail to the southern tip of the island to spend the night, when we first noticed a disconcerting gulf phenomenon. Bill was in the rigging to choose passage out, when he noticed what appeared to be rocks awash in the area through which we had just passed. Then there seemed to be a long reef awash, to our starboard. More on our port! Our first thought that St. Christopher had seen us through the only passage between rocks—then we decided that our charts couldn't be that far off. Investigation revealed these lines of breakers are common about the islands. The rush of the tides up and down the long gulf results in strong opposing currents which throw up areas of broken water with the appearance of submerged rocks. Even when we know the reason for the disturbance we avoided the areas whenever we could, and if we had to pass through one we couldn't help peering apprehensively into the boiling depths.

That evening we enjoyed a sail along the towering cliffs which form the south end of San Esteban Island. The sun was low, the sea smooth, and we drank in beauty. Small rocky beaches were covered with hundreds of sea lions, their barking swelled and echoed from the cliffs. We approached the sandspit which gives protection at the south tip of the island, casting the leadline until we came in to four fathoms, dropped the anchor and twenty fathoms of chain, and rowed ashore. Plants on the steep slopes were the same as we had found at the first stop, with the addition of an *Opuntia* very closely resembling *Opuntia Bigelovii*. Its thick joints were nearly globular. Small plants are being raised to establish its relationship. Western gulls were nesting among the cobbles of the spit, their nests composed of a few scraps of seaweed placed among the rocks. The eggs were as large as those of a chicken, green with brown splotches. A pair of large ospreys wheeling and screaming overhead attracted us to their nest, perched on the top of a high rock. We climbed

FIG. 6
The Elephant Tree, *Pachycormus discolor,* was first seen on Angel de la Guarda Island.

to it, a great pile of sticks six feet in diameter, and found two nearly mature young crouched in the bottom. They refused to move a feather, only batted their eyes as the parents swooped and cried just above.

A pleasant, quiet anchorage is a desirable thing, especially on a trip of this sort. We enjoyed one that night. We paddled about in the skiff, examining the marine fairyland on the bottom. We saw a large old sea turtle munching algae just beneath us. Sea lions were curiously swimming past and often completely around the boat.

The next morning we rounded the sandspit, passing through more strange water. Very strong tide rips boiled water up from depths, carrying seaweeds with it. We had a calm sea to Angel de la Guarda Island, where we anchored in a cove near Pond Island in the afternoon. Angel de la Guarda is the largest island on the coast of Lower California, being about forty miles long and ten wide. It is rugged. Lynne and I went ashore, and walking up an arroyo, were surprised to find many herbaceous things in flower. There were also many large black chuckwallas which used shallow burrows in the arroyo sand. Their tails were exposed, and we couldn't resist giving a few a strong jerk—just to show these fellows that man is not to be trusted!

The Mammillarias of Angel de la Guarda are confused, or at least confusing. In 1936 I made collections on the west side of the island. Nearly all the Mammillarias that were collected varied in flower formation. Most of the plants were doubtfully referred to *M. verhaertiana* Boedeker, but one formed the type of *M. angelensis* Craig. We collected another type near Pond Island, a clumping species covered with blossoms. Again in the *M. armillata* relationship, it is difficult to place.

In the evening we sat on deck, watching numberless jellyfish of several species passing by with the two knot current. Some were rather tubular, others typically shaped. We scooped some up as they passed, for closer inspection. One continued to swim, undulating, its bell pressed against the side of the pail. Hours later it was still swimming, its "head" still against a "stone wall." We dumped him back into the gulf, it fatigued us to think of its wasted effort. Perhaps what bothered us more was we couldn't help noting this slow, unproductive stupid struggle was analogous to many efforts of us higher animals.

Up early and still sailed north. We had been unable to locate *Ferocactus Johnstonians* at our first stop, so we put in at the lagoon on the northeast side of the island, as this was where Johnston first collected it in 1921. Hiking up over the rough rubble covered alluvial fan below the hills, we came upon several plants, but they were not common. This had been my experience before on the west side of the island, and has been verified by Howard Gates. While confined to Angel de la Guarda, this species is not abundant in any known locality. Pure golden spines make it one of the most attractive of the Ferocacti. Here we first noticed *Pachycormus discolor,* the grotesquely thickened and twisted "elephant tree" which is common through the arid central portions of the peninsula.

Evening found us in Refugio Bay, the northern tip of the island. It is a fine bay, and huge ships could use it. They never have or will! Some writers have called this the "Wild Upper Gulf," but what impressed us was its lonesomeness. We went ashore on Mejia island, which helps form the bay, but found no unexpected plants. That evening two whales came by, very near where we were anchored. We were accustomed to them—one had sounded under the boat! Lynn rushed below to close ports and hatches, as whales have overwhelming and lingering halitosis. We liked whales; possibly because we were a little lonesome here we welcomed them. They were much longer than the "Adventurous," and of course we wondered the results if one should come up directly under us —but they apparently see well, and never did. I wish those persons interested in antivivisectionist leagues would turn their attention to sweeping the stinking whale reduction ships from the seas. I stand in awe of these harmless Goliaths, and they have my admiration and sympathy. Anyway we shared this bay and this huge island with two whales.

To be continued

CAMERA EQUIPMENT FOR SALE

The following slightly used equipment is perfectly suited for taking cactus pictures, close-ups or in the field, in color or in black and whites. Voigtlander, 9 x 12 cm. (3¼ x 4¼) with extension bellows; 4.5 lens with Compur shutter; for film pack or cut film; ideal for fitting with 35 mm. back. Includes film-pack holder, 3 cut-film holders, carrying case, folding tripod with revolving, adjustable head, and Argus light meter. Price $100.00. Abbey Garden Press, 132 W. Union, Pasadena, Calif.

DRIVING TO MEXICO

On a cactus collecting trip in February. Anyone interested in going with me write to R. J. Taylor, Rt. 2, Box 671, El Cajon, Calif.

BINDING JOURNALS

During the month of February, you may send in your JOURNALS for binding. Send $2 for each volume and mail to Scott E. Haselton, 132 W. Union St., Pasadena, Calif. Be sure to remove any inserts that you do not wish to have bound in. Add 25c for each missing copy which we will endeavor to supply; however, some copies are not available. At this time you may send *any* of the Volumes of the JOURNAL, but we cannot accept any other books for binding at this time. Remember to include payment for the binding and that February is the dead line. Prices are high but we are fortunate to be able to bind these magazines which increase in value each year. Be sure to include the Vol. XIX Index from the center of this month's Journal.

COLOR PLATES

Our engraver is working on 12 color plates which we hope will be ready to start publishing in the February issue. We are investing a thousand dollars for this series and your interest will determine the JOURNAL policy after this year.

VISITORS WELCOME

Mrs. A. L. Obenchain, Cedar Vale, Kansas, is now located on Highway 166. Drop in and see her 700 plants.

LOBEIRA CULTURE

I have had too little experience with *Lobeira* to speak with authority. I had trouble getting a plant well started but when I finally got one, the type, with a firm basal stem it did alright, in part shade and rather sparingly watered. However, it was always puny, compared with wild plants.

I find that most of the soft padded species, especially if they are from the rain forest and high altitudes, are troublesome at first. Have found that it is helpful to root cuttings in water and leave them a long time before potting. I am enclined to think many species would be better in the long run, if grown from seed. I am getting good, though probably temporary, results by grafting on *Hylocereus*. It is worth considering, too, from the nematode standpoint.

T. MACDOUGALL.

PROCTOR PICTURES

If you enjoyed the beautiful Christmas edition of "Arizona Highways" you will be watching for the following which will contain more of Mr. and Mrs. Proctor's fine color pictures of cacti:

Flower Grower—March. With feature article on Orchid Cacti.

American People's Encyclopeadia—Sears and Roebuck. Contains cactus shots in color.

Arizona Highways—March. Another big cactus number with four pages of their color work and a 4500 word story on cactus photography. The entire issue will feature the desert in general.

National Encyclopaedia—P. F. Collier & Sons. Nine color portraits of cactus flowers.

Colliers Weekly Magazine. At a future date will appear a double spread of cactus flowers, one page containing nine pictures.

RECOMMENDED BOOKS

In following the classification of Curt Backeberg you should have his publications while they are still available:

Backeberg's 1934 Catalogue, 40 pgs. with 72 excellent cactus pictures.....50c

Backeberg's *Cactaceae*, the distribution of cacti with 44 maps, 136 pages in German.....
unbound $4.65, foreign $5.00

Backeberg's *B. F. K.* (*Blatter fur Kakteenforschung*). This bulletin of cactus research was published between 1934 and 1938 and contains 460 pages and 250 photos. Each cactus is described in English. The most valuable material since Britton and Rose. Absolutely necessary for those studying classification. Unbound; spring binders available soon.....$6.75, foreign $7.25

Backeberg & Knuth—*Kaktus ABC*,
paper bound $5.00, cloth $6.50

NEW EDITION OF THE STUDY OF CACTI

The revised edition of Mrs. Vera Higgins' *The Study of Cacti* is now ready for delivery. This is the best and only summary of the Britton and Rose classification. Understandable and especially recommended for beginners who wish to grasp the fundamentals in the study of cacti. The book contains 24 photos and a comprehensive chart for studying the differences in the various cactus forms. Postpaid in U.S.A. $2.90; foreign $3.00.

PRICE CHANGES

Marshall & Bock—*Cactaceae*, out of print.....$20.00

Manning—*What Kinda Kaktus Izzat*..... 1.75

Benson—*Arizona Cacti*, out of print, bound..... 5.00

Boissevain—*Colorado Cacti*,
paper bound $1.50, cloth $2.00

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CONVENTION BANKS

Through the kindness of John Haag, owner of the Cactus and Succulent Conservatory in St. Paul, Minn., each attendant at the Cincinnati convention received a unique "Piggy Bank" in which to save funds for the Phoenix '49 Convention.

DESERT PLANT LIFE

Please make an offer for Volumes I and 11, bound.

W. M. KETTERINGHAM

392 Palos Verdes Drive, Palos Verdes Estates, Calif.

SPINE CHATS

LADISLAUS CUTAK

One of my treasured correspondents is an Aussie and as you would guess he lives in Australia, in the western part of Victoria. When Ralph Field came to his present location at Tennyson one of his friends traveling in that direction stopped in to see him and muttered, "what a terribly desolate place to come to and bring a bride!" The country all around was one huge desolate plain, windswept and black, overgrown with high, straggling boxthorn hedge. However, Mr. Field had vision and today "Whiora," by which name he calls his ranch, is one of the showplaces in the Commonwealth. By installing an irrigation system and planting hundreds of trees his "desert" has been transformed into a place of great beauty. On his property grows a wonderful collection of Eucalyptus—stately trees that are now utilized for plantings in California gardens. Besides the eucalyptus, Ralph Field grows many other kinds of ornamentals for he has become "tree and shrub conscious"—as many ranchers do for reasons of safety and success, etc.

However, you'd never guess how Ralph was introduced into the select clan of cactophiles . . . but I will gladly tell you. His father was a lover of cacti and had a very nice collection of them. Young Ralph had to weed the spiny beds and attend to the watering and other sundry tasks that go hand in hand with their cultivation, while his pals were enjoying themselves in games, such as cops and robbers which boys all over the world play. You'd imagine that after he grew up he wouldn't want to look at another cactus again as long as he lived. Perhaps he felt that way for some time but shortly after returning from the First World War he became seriously interested in the cactus hobby and through the goodness of the Melbourne Botanical Gardens was able to make a fair start.

During those early days small additions came from Germany but he had to deprive himself of many things before he saved enough to be able to send an order overseas. At that time there were few collectors in Australia and these were scattered over the country so that immediate contacts could not be made for exchange of plants, ideas of culture, etc. So you see it was an uphill fight from the very beginning.

Mr. Field brought his collection to "Whiora" some twenty years ago and soon found out that the location was good for his plants. There were weeks on end of hot days and nights—often reaching 100-120 degrees in the shade, but with plenty of water the cacti enjoyed it. Later he applied sheep manure to the soil which made his plants grow with lush exurberance. Very little loss accrued from this treatment even among the ultra deserts kinds. He thinks that this same treatment might be disastrous to many cacti in cooler localities but it certainly has been working wonders for him at "Whiora." He believes that many collectors starve their plants too much by not applying appreciable amounts of food and water. The plants that require protection from the burning sun are grown in the shade of native light-foliaged trees and shrubs. The winter temperatures at Whiora gets down around 25 degrees F. and these are the days that give heartaches; however, bright sunny days follow the freezes and the ground usually is dry. When there is a wet winter temperatures are much milder, seldom going below 32 degrees.

Mr. Field doesn't exactly know just how many cacti he has in his possession—for there are many duplicates—and then his plants are scattered over the garden which takes in several acres. The cacti are grown with native trees and shrubs rather than separately. Three years ago he roughly counted some 700 species but many more have been added since. Ralph claims that his plants get very little care from him; the climate and soil is exceptionally good, so all he does is water and weed. Don't you, indoor fans, envy him?

The Fields have three boys, spaced something like our own sons, but last August a baby daughter arrived and what joy it was! Possessing such a nice family, plenty of cattle and sheep, and a good collection of cacti should make Ralph contented for the rest of his life. Folks, he worked hard for it!

* * *

I read an interesting article in Soil Conservation (August, 1946) by Louis E. Reid in which he relates how Prickly Pear Cactus can be useful on the range. The author cites Ben Osborn, range conservationist at San Angelo, who states that the Opuntia often protects the only remaining stands of desirable grasses in over-grazed pastures. When grazing pressure is lightened the desirable grasses which have been growing in the clumps of Prickly Pars furnish necessary seed for revegetation. With a good cover of quality grasses on the range, erosion from wind and water is controlled and productivity increased. The Prickly Pears can be removed to eliminate possible injury to livestock after the grass is restored under a proper stocking rate. However, Osborn points out, cattle and sheep aren't likely to become pear eaters on good range with plenty of palatable feed available. A few pear clumps scattered around also offer protection to game birds. Ben Osborn works with ranchers cooperating with the Eldorado-Divide Soil Conservation District in Texas.

* * *

Longopsis Opuntiae is a new genus and species of Emiascus parasitic upon *Opuntia Ficus-Indica* and is responsible for a diseased condition in this Prickly Pear. Maria Fiore describes the new genus and species according to rule and also the symptoms of the disease in the Bollettino della Societa Dei Naturalisti in Napoli (53:105-118, [1942] 1943). The text is in Italian.

* * *

It is said that the Hopi Indians have a deep reverence for the desert yucca, because to them it is as useful as the bamboo is to the Orientals. From its fibers ornamental baskets and plaques are made, also brooms and brushes, and from its roots they make a soap especially valued as a shampoo. To show their appreciation for this desert endemic, the Hopi dance their beautiful yucca dance at the season when the plant is blooming.

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